

Amendments to the Drawings:

Please replace the three sheets of informal drawings showing Figs. 6, 6A, 7, 8 and 8A with the three new sheets of substitute drawings submitted herewith.

BEST AVAILABLE COPY**REMARKS**

With careful attention to the outstanding Office Action, the claims have been amended for clarity and accuracy, to place them in better condition for allowance. The drawings have been amended to correct informalities in the last three sheets thereof, and the specification has been amended to correct minor typographical errors, for clarity and accuracy of the application.

I. Rejections Under 35 USC § 102

Claims 40, 41, 48, 49 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,769,803 to Brossard. In view of the above-requested amendments to the claims, Applicants respectfully traverse the rejection. As amended herein Claim 40 reads as follows:

An item of support apparel for reducing the risk of injury to a human user comprising:
a support body for substantially encircling at least a part of a human body;
at least one side panel disposed at a predetermined position along the support body;
a plurality of protrusions on the at least one side panel to apply selectively increased pressure to the human body at a position determined by the location of the at least one side panel;
wherein the item of support apparel is a support belt including placement structure for facilitating the placement of the support body at least one inch below the navel of a human wearing the support apparel.
(Emphasis added).

The subject matter of the cancelled Claim 51 has been added to Claim 40 for clarity and accuracy of the invention claimed. No new matter is introduced by this amendment to the claims, ample antecedent basis for which is found in the specification, for example, at page 8, last paragraph and page 9, first paragraph of the specification. There is no teaching nor suggestion in Brossard of a support belt of any kind, much less a support belt including placement structure for facilitating the placement of the support body at least one inch below the navel of a human user wearing the support apparel. By contrast, Brossard discloses a method and

device to control the reflex response of a muscle articulating a joint. Fig. 13(b) of Brossard (relied upon by Examiner) shows a "sock-like elastic ankle band." Accordingly, Claim 40, as amended, is submitted to be in condition for allowance over Brossard as being neither taught nor suggested thereby. Further, Claims 41 – 53, which all depend from Claim 40, are allowable over Brossard as featuring patentable limitations on an allowable independent claim.

Claims 40, 41, 48 and 49 have also been rejected under § 102 as anticipated by U.S. Patent 5,261,871, issued to Greenfield. Applicants traverse the rejection. The amended Claim 40 is shown above. In view of the additional limitation of the features from cancelled Claim 51, independent Claim 40 and Claims 41, 48 and 49, which depend therefrom are in condition for allowance. There is no teaching or suggestion in the Greenfield Orthopedic Device patent of a support belt including structure to facilitate placement of the support body at least one inch below the navel of the wearer, as presently claimed. Rather, Greenfield discloses in Figs. 8 – 12 (cited by Examiner) a joint brace with wire coils on each side. Thus, Claims 40, 41, 48 and 49 are all deemed to be in condition for allowance over Greenfield.

Claims 9, 10, 40 – 43 and 51 – 53 are rejected under § 102 as anticipated by U.S. Patent 5,984,886, issued to Miller. Applicants traverse the rejection. As amended herein, Claim 9 reads as follows:

A support belt for reducing back injury comprising:
a support belt body sized to fit about the lower trunk of a human user, said support belt body having a front designed to be worn along the front of the lower trunk of the human user, a back designed to be worn along the back of the lower trunk of the human user, and sides designed to be worn along the sides of the human user;
first and second sets of protrusions disposed along the sides of the support belt body so as to press against the sides of the lower trunk of the human user during use, at positions substantially 90° and 270° from the human user's navel;
said protrusions of each set being of a size to apply pressure at recognizably separate points along each side of the lower trunk of the human

user, whereby the pressure applied by the protrusions continually stimulates the user's muscles and thereby reduces any tendency of the muscles of the back of the human user to overcompensate in response to sudden or unexpected loading events.
(Emphasis added).

With regard to Claim 9, shown above, while Miller does disclose a support belt, there is no teaching or suggestion in Miller that the "pair of inwardly curved sections sized and shaped so as to urge against the iliac crests of the person" wearing the Miller belt are "at positions substantially 90° and 270° from the human user's navel, nor that the Miller "curved sections" continually stimulates the user's muscles and thereby reduces any tendency of the muscles of the back of the human user to overcompensate in response to sudden or unexpected loading events, as in the presently claimed support belt with "first and second sets of protrusions...." On the contrary, in Miller, the main feature is an elongated multi-layer strip having a center portion and a pair of ends. The center portion of the elongated strip is shaped to define an angle of lordosis of approximately 15 degrees in the lumbar spinal region, not on the sides of the user at 90 and 270 degrees. The support portion of the Miller device is "in order to properly position the lumbar spinal region of person P at the proper curvature and to provide uniform support to the entire arched lumbar spinal region of person P." (Col. 5 last para. and Col 6, lines 1 - 4, Miller) While such skeletal support may be beneficial to the wearer of the Miller device, it is not relevant to the claimed structure of the support belt of the present Claim 9, as specified above. Accordingly, Claim 9 and Claim 10, which depends therefrom are submitted to be in condition for allowance over Miller, as being neither taught nor suggested thereby.

Further, the present Claim 40, as amended and shown above is in condition for allowance over Miller. Contrary to Examiner's statement on page 3, paragraph 5 of the Action, Miller does definitely NOT disclose a belt with a back adjustment mechanism capable of facilitating the placement of the support body "at least one inch below the navel of a user," as is presently

claimed. Rather the cited text, (Col. 5, lines 50 – 61) of Miller states repeatedly that the belt is “positioned around the waist of person P.” *Emphasis added.* As illustrated in Figure 8 of Miller, the cited belt is indeed worn around the waist, distinctly NOT at least one inch below the navel of the user, as presently claimed in Claim 40. As has been made clear in the present application (e.g. pages 8 and 9 of the specification), it is a distinct advantage of the new support device that it is positioned to be worn low, well below the waist, for optimal performance and the protrusions of the present device are provided in sets “of a size to apply continual pressure at recognizably separate points along each side of the lower trunk of the user, to stimulate the user’s muscles so as to avoid an over reaction resulting in injury. There is no teaching or suggestion of such structure in the Miller patent. Accordingly, Claim 40, as amended and claims 41 – 43 and 52 and 54 are in condition for allowance over Miller.

II. Rejections Under 35 USC § 103:

Claims 11, 13, 44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,984,885 to Miller. Applicants traverse the rejection. It is submitted that in view of the amendments herein the rejections are now moot and these claims are now in condition for allowance for the same reasons given above with regard to the independent Claims 9 and 40. With regard to Claims 44 and 46, Miller makes no suggestion of a support belt specifically to be positioned at least one inch below the navel of the wearer. Rather, Miller’s belt is to be worn around the user’s waist. Thus, it would not be obvious for one skilled in the art of specific muscle stimulation to look to the skeletal support belt of Miller. With regard to Claims 11 and 13, which depend from Claim 9, Miller also makes no mention or suggestion of side panels having discreet protrusions to apply constant pressure at recognizably separate points along each side of the lower trunk of the user. Rather, as Examiner notes, Miller fails to disclose

additional protrusions applying less pressure to the lower trunk of the user between the first and second sets of protrusions. Miller places an emphasis upon proper positioning of this area, increasing the reflex response of the muscle group located in the lumbar region to "define an angle of lordosis of approximately 15 degrees in the lumbar spinal region. This is to properly position the lower spine of a weight lifter to prevent injury. Thus, Miller actually teaches away from the present invention as featured in Claims 11 and 13, which claims are considered to be in condition for allowance over Miller.

Further, Claims 11 and 13 are allowable as specifying patentable limitations on an allowable base claim, Claim 9. Similarly, Claims 44 and 46 feature patentable limitations on allowable base claim 40 and therefore are also in condition for allowance.

Claims 12, 14 and 46 are rejected under § 103(a) over Miller, and further in view of Brossard. Applicants respectfully traverse the rejections.

In view of the above amendments to the claims and arguments provided above, Claims 12, 14 and 46 are submitted to be in condition for allowance. Miller teaches a waist fitted weight lifting belt with structure for proper positioning of the lower spine. It does not teach or suggest a support belt to be worn at least one inch below the user's navel (as required in the present Claim 46), nor does it teach or suggest discreet and constant stimulation on the wearer's sides to prevent back muscle over-compensation responsive to sudden or unexpected loading events (as in Claims 12 and 14). Indeed, weight lifters clearly do not have "unexpected loads." Miller does not suggest additional protrusions "applying less pressure to the lower trunk of the human user than at least some of the protrusions of the first and second sets. As explained, this has nothing to do with the goals of the Miller belt which positions the lower spine properly for weight lifting. Thus, Miller teaches away from the present invention and it would not be obvious for the

inventors of the present device to look to the Miller disclosure for the presently claimed invention.

Moreover, skeletal positioning, as in Miller, and nerve stimulation for controlling a reflex response, as in Brossard are completely unrelated. Thus, there is thus no motivation to combine Miller with Brossard as Examiner has done in rejecting Claims 12, 14 and 46, thus these claims cannot be considered to be obvious.

The Auslid patent which was cited but not relied upon is not deemed pertinent to the present application as neither teaching nor suggesting the specific combination of features presently claimed.

III. Conclusion

In view of the foregoing requested amendments, it is submitted that independent Claims 9 and 40 are now in condition for allowance over the art, whether considered alone or in combination, as the specific combination of structural features presently claimed is neither taught nor suggested thereby. Further, Claims 10 – 14 and 41 – 53 are also deemed to be in condition for allowance, as featuring patentable limitations on respective allowable independent claims.


Although withdrawn from consideration, in view of the Restriction Requirement, it is respectfully requested that Claims 1 – 8 and 15 -39 be permitted to remain in the application for possible prosecution later as a continuation application. Applicants respectfully submit that the independent claims are allowable over the prior art of record, including the cited references. For similar reasons, and for the additional reasons set forth above, Applicants urge that the dependent claims are also allowable.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

No new matter has been introduced by the above-requested amendments. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,


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